

Remarks

Claims 1, 2, 4 to 8, 10, 11, 13, 14 and 16 to 18 remain in this application.

Claims 1, 4 and 16 have been corrected as suggested by the Examiner and are believed to be in conformance with 35 USC 112.

Examiner Davis is cordially thanked for the courteous and informative interviews extended to the undersigned on May 10, 2010 and to the Applicant, her consultant, Aaron Rosenberg, and the undersigned on May 28, 2010.

Each of the independent claims has been amended in the manner suggested by Examiner Davis on June 2, 2010, i.e. each claim further defines that each word of the "one-time challenge phrase" is randomly generated. Also, each independent claim has been amended as discussed during the interview of May 28 to recite that the "entire" second signal (see claim 1) or "entire" spoken response (see claim 16) is compared for speaker recognition and speech recognition.

Reconsideration of the rejection of the claims is requested.

Claim 1 has been rejected as being anticipated by Hattori.

It is understood that the Examiner considers the combination of a password and specified text in Hattori to constitute a "one time challenge phrase" and that two parts of the same signal are processed for both speaker recognition and speech recognition. However, it is respectfully submitted that the Examiner is in error in considering that claim 1 is anticipated by Hattori.

Claim 1 requires "a first data base having a plurality of words and language rules for randomly generating one-time challenge phrases". Hattori does not describe or

teach such a structure. Instead, a text generation section 201 generates a specified text to be uttered by an unknown speaker together with a password in series. (col. 14, lines 47 -53) Since the password is identified with a speaker, the combined specified text and password which is considered to be a "challenge phrase" by the Examiner cannot be considered a "randomly" generated challenge phrase. Instead, the alleged challenge phrase is dependent on the speaker. For this additional reason, a rejection of claim 1 as being anticipated by Hattori is not warranted pursuant to the provisions of 35 USC 102.

As amended, claim 1 further requires "wherein each word [of said phrase] is randomly generated" as suggested by Examiner Davis.

Further, the text generation section 201 of Hattori does **not** have a plurality of words and language rules for randomly generating any challenge phrases. For this additional reason, a rejection of claim 1 as being anticipated by Hattori is not warranted pursuant to the provisions of 35 USC 102.

Claim 1 requires a controller "communicating with said station to receive a spoken response ... and to generate a **second signal** representative of the spoken response, to process said second signal for speaker recognition and to issue a first validation signal in response to a match between said second signal and said stored biometric model, **to process said second signal** for speech recognition and to issue a second validation signal in response to said **second signal exactly matching said one-time challenge phrase ...**"

In Hattori, the time correspondence section 506 segments the input pattern of the unknown speaker into two parts (i.e. a first input pattern corresponding to the specified

text and a second input pattern corresponding to the password). The text verification section 507 executes the `text verification` of the **first input pattern** and judges that the specified text has been correctly uttered by the unknown speaker. (col. 15, lines 22-36) Thus, the text verification section 507 does not exactly match the first input pattern (specified text) to the one time challenge phrase (password and specified text). That is , the text verification section 507 does not match a part of a whole to the whole. For this reason alone, a rejection of claim 1 as being anticipated by Hattori is not warranted pursuant to the provisions of 35 USC 102.

As amended, claim 1 emphasizes that the entire second signal is processed for each of speaker recognition and speech recognition not simply parts of the signal as in Hattori.

Claim 1 further requires "a station for receiving information representative of a user from the user and generating a signal responsive thereto" and "a controller to receive and validate said signal as representative of the user, said controller ...communicating with said first data base ...and ... communicating with said station ... to receive ... to process ... and to validate..." Hattori does not describe or teach such a structure.

Higgins

Examiner Davis has provided a copy of Higgins et al, *Speaker Verification Using Randomized Phrase Prompting* that was cited in Hattori.

Higgins is basically an older method using templates instead of models. Higgins enrolls participants in certain numbers and can create a variety of templates by putting them together in randomized order (certainly not one-time). Upon verification, Higgins

determines which templates he will put together for the next random prompts then prompts the user to speak those numbers. Speaker verification is against concatenated templates (enrolled text dependent, numbers represented in corresponding templates).

More specifically, Higgins at page 90 describes the speech material as being generated from "combination-lock" phrases spoken at an enrollment session. That is to say, these are not randomly generated one-time phrases wherein each word of said phrase is randomly generated.

Higgins at page 92 describes verification as determining whether the claimant was speaking and whether the input utterance was spoken as prompted.

More specifically, Higgins at page 89, left column states "the system described here uses a prompting strategy in which phrases are composed at random using a small vocabulary of words. The spoken phrases are compared with word templates derived from enrollment sessions. This strategy introduces the following difficulty. Words occur in the test material in contexts that did not occur in the enrollment material. The context in which a word is spoken influences its pronunciation through coarticulation, caused by limitations in the movement of the speech articulators. These unmodeled coarticulations contribute to the measured dissimilarity between the input speech and the claimant's word templates, increasing the likelihood of rejecting valid users.

A scoring method called *likelihood ratio scoring* partially overcomes this difficulty. A scoring method called *likelihood ratio scoring* partially overcomes this difficulty. Likelihood ratio scoring is based on an approximation to the likelihood ratio, the ratio of the probability of the observed input assuming it was spoken by the claimant to the probability of the observed input assuming it was spoken by someone else. To compute

this approximation, input speech is compared with the claimant's templates and with the templates of a set of other weaker, (who may be other enrolled users) called the ratio set. All templates are derived from enrollment sessions in which the same scripts were read..."

In describing Verification at page 92, left column Higgins states " The-system performs two types of verification. It determines whether the claimant was speaking and whether the input utterance was spoken as prompted. To accomplish this, three score values, obtained from template matching, are used. The open syntax provides two of these scores. The open syntax is actually composed of two parallel "branches" with shared start and end nodes. The upper branch contains templates only for the claimant, while the lower branch contains templates for all the ratio-set speakers. The last node on each branch is called a *report node*. The open score, "O", equals the exit score of the report node on the upper branch at the ending frame, and the-reference score, "R", equals the exit score of the report node on the lower branch at the ending frame. The forced syntax provides the third score. The forced score, "F", equals the exit score of the report node of the forced syntax at the ending frame. If forced recognition is not performed, *F* is set equal to *O*."

"To determine whether the input utterance was spoken as prompted, the values of *F* and *O* are compared."

"To verify the identity claim, the values of *F* and *R* are compared".

In sum, Higgins does not describe or teach "a first data base having a plurality of words and language rules for randomly generating one-time challenge phrases wherein each word [of said phrase] is randomly generated" nor a controller "communicating with

said station to receive a spoken response ... and to generate a second signal representative of the spoken response, to process said second signal for speaker recognition and to issue a first validation signal in response to a match between said second signal and said stored biometric model, to process said second signal for speech recognition and to issue a second validation signal in response to said second signal exactly matching said one-time challenge phrase ...”

Claim 2 is believed to be allowable for the reasons of record. Further, claim 2 requires “in response to validation of said first signal, generating and delivering a randomly generated one-time challenge phrase”. As noted above, since the password is identified with a speaker, the combined specified text and password which is considered to be a “challenge phrase” by the Examiner in Hattori cannot be considered a “randomly” generated challenge phrase. Instead, the alleged challenge phrase is dependent on the speaker. For this additional reason, a rejection of claim 2 as being anticipated by Hattori is not warranted pursuant to the provisions of 35 USC 102.

Claim 4 contains recitations similar to claim 1 and is believed to be allowable for similar reasons. Further, claim 4 requires “said controller communicating with said station to receive and compare a spoken response to said challenge phrase with said challenge phrase to verify said spoken response as **exactly matching** said challenge phrase”. As noted above with respect to claim 1, the text verification section 507 of Hattori does not exactly match the first input pattern (specified text) to the one time challenge phrase (password and specified text). That is , the text verification section 507 does not match a part of a whole to the whole. For this reason alone, a rejection of claim 4 as being anticipated by Hattori is not warranted pursuant to the provisions of 35

USC 102.

Claim 5 contains recitations similar to claim 2 and is believed to be allowable for similar reasons. Further, claim 5 requires "comparing said spoken response to said one-time challenge phrase to verify said spoken response as exactly matching said one-time challenge phrase". As noted above, the text verification section 507 of Hattori does not exactly match the first input pattern (specified text) to the one time challenge phrase (password and specified text). For this reason alone, a rejection of claim 5 as being anticipated by Hattori is not warranted pursuant to the provisions of 35 USC 102.

Claims 6, 11 and 14 depend from claim 5 and are believed to be allowable for similar reasons.

Claims 7 and 8 depends from claim 2 and are believed to be allowable for similar reasons.

Claim 16 contains recitations similar to claim 1 and is believed to be allowable for similar reasons.

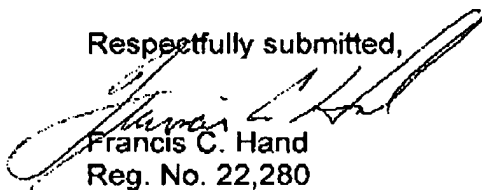
Claim 17 contains recitations similar to claim 1 and is believed to be allowable for similar reasons.

Claim 18 depends from claim 4 and is believed to be allowable for similar reasons. Further, claim 18 requires "said first data base stores said plurality of words and language rules in a plurality of language sets, each said language set being specific to a subject area different from the subject areas of the other of said language sets." Hattori is void of any such teaching. The passages of Hattori cited by the Examiner in support of the rejection are void of any teaching of words and language rules in a plurality of language sets or of any language sets of different subject areas. For this

reason alone, a rejection of claim 18 as being anticipated by Hattori is not warranted pursuant to the provisions of 35 USC 102.

The application is believed to be in obvious condition for allowance and such is respectfully requested.

Respectfully submitted,



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